

TO:	CHAIR AND MEMBERS BUILT AND NATURAL ENVIRONMENT COMMITTEE MEETING ON AUGUST 17, 2011
FROM:	PATRICK MCNALLY, P. ENG. EXECUTIVE DIRECTOR - PLANNING, ENVIRONMENTAL & ENGINEERING SERVICES
SUBJECT:	WATER TECHNOLOGY CENTRE INITIATIVE - UPDATE

RECOMMENDATION

That, on the recommendation of the Executive Director - Planning, Environmental and Engineering Services, the following action **BE RECEIVED** for information purposes with respect to Water Technology Centre Initiative :

- a) the information on the status of the initiative be received
- b) Committee and Council be aware of the City's linkage to the outstanding application for FedDev funding on behalf of the Southern Ontario Water Consortium
- c) Committee and Council be aware of the City's funding request and application under the Drinking Water Testing Services Regulation.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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- Committee of the Whole report – January 25, 2010, London Economic Development Corporation - Key Initiatives
- Board of Control – Nov. 18, 2009 -Joint Venture to Secure FedDev/ SODP Funding for a WasteWater Technology Centre
- Committee of the Whole report – October 7, 2009, London Strategic Economic Initiatives
- Board of Control – July 22, 2009 – Waste Water Technology Centre

BACKGROUND

Purpose:

The purpose of this report is to provide a brief update on key initiatives related to the development and sighting of a waste water treatment centre in London to serve a centre of excellence, stimulate the development of water/wastewater technology by facilitating advancement from bench scale testing to market and act as an economic generator for southwestern Ontario.

Discussion:

In the fall of 2009, Council approved the advancement of efforts by staff to work with the University of Western Ontario (UWO), Trojan Technologies and potentially others to seek funding to support the development of research and testing facility originally conceived to be at the Greenway Pollution Control Plant. Such a facility and program would advance the City's knowledge with respect to innovative water and wastewater treatment technologies, assist the University in advancing training and academic research in related areas and support industry seeking to move water solutions of the future from the test bench through full scale testing to the marketplace. This report offers some brief highlights of the efforts over the past two years and outlines the status of current initiatives.

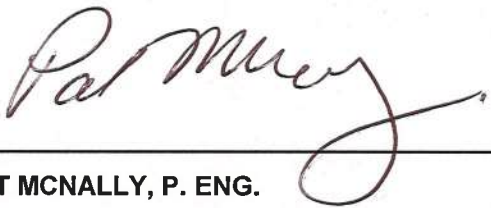
Unfortunately the original FedDev application that the parties submitted in late 2009 was not successful in securing some of the limited funding available. The City of London and UWO were

not alone in seeing the merits of this multi-party type partnership to seek support of the senior levels of government. A number of developments have taken place in the intervening period.

- As Council and the London Economic Development Corporation (LEDC) consider vehicles for economic growth, Council has now earmarked \$3.8M to support the facility, now referred to as the International Water Centre of Excellence (IWCE).
- UWO has worked with a number of other academic institutions and under the leadership of the University of Waterloo has collaboratively advanced a proposal to FedDev's Technology Development Program on a partnership referred to as the Southern Ontario Water Consortium with the London 'node' focused on the efforts related to the IWCE.
- Trojan Technologies continues to advance their research goals and do so with testing here in London through the recently approved operating agreement with the City for the use of the out-of-service Westminster Pollution Control Plant.
- The City continues to work with LEDC to promote the support of the City of London in assisting innovators and manufacturers with their testing and demonstration needs. Through that collaboration, the City has indicated to the Minister of Infrastructure (Ontario) willingness to participate in a pilot project with A.U.G. Services Ltd. (AUG) on a significant project to support the testing and demonstration of their Triton Intelligent Water Surveillance system. An application has been submitted to the Ministry of the Environment, and both the City and AUG are anxiously awaiting a response from the Provincial government. The conceptual project requires much more due diligence and project definition, but based on AUG's workplan, a request has been made for \$10,000,000. We expect all the City's expenses to be covered through this funding with no net costs to the water rate payers. Appendix A is a brief summary of the initiative from AUG.
- Based on evolution of the concept over the last two years, staff are updating the location and conceptual layout drawings for the permanent testing facility now potentially located 'within the gates' of the current plant.

Commentary:

The path to a multi-party partnership and related funding support from anyone of a number of senior governments funding program is never a straight forward process. Staff continue to work with other parties to be strong supporters of research and innovation being key to long term environmental compliance and sustainability within our own operating needs, but also a vehicle to the long term advancement of the technology and in that process the economic development opportunities that go with it.

PROPOSED AND RECOMMENDED BY:

PAT MCNALLY, P. ENG. EXECUTIVE DIRECTOR, PLANNING, ENVIRONMENTAL & ENGINEERING SERVICES

Attachment 'A'

cc. P. White, LEDC
J. Braam, Director of Water & City Engineer
R. Standish, Director, Wastewater & Treatment

Appendix 'A'

- Promotional memo on 'The Intelligent Drinking Water Monitoring Systems (IDWMS)
- Note: references in this document to drinking water not being monitored 24/7 are not accurate. The City of London and the Lake Huron & Elgin Area Primary Water Supply Systems operate and monitor the drinking water treatment and distribution systems on a 24/7 basis in compliance with all requirements of their Certificates of Approval (Licenses to Operate) as issued by the Ministry of the Environment). The A.U.G. system will offer enhancements to the monitoring.

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The Intelligent Drinking Water Monitoring System (IDWMS)

With this letter I wish to bring to your attention a pilot project for a novel system offered by AUG Signals that complements and strengthens your city's activities in monitoring drinking water quality. AUG Signals' Intelligent Drinking Water Monitoring System (IDWMS) is based on the company's unique technologies, previously only applied to defence and military systems and mainly used and validated by the Canadian Forces and Department of National Defence. IDWMS has been designed to ensure continuous water quality surveillance and compliance with provincial regulations.

AUG is planning on submitting a proposal to the Ministry of Research and Innovation (MRI), under the Innovation Demonstration Fund (IDF), for a pilot project that will demonstrate our water monitoring system. We are very interested to partner with your city to deploy this pilot project. The proposed project aims to develop and deploy a powerful online water monitoring infrastructure to integrate the collection, analysis and management of water quality information and ensure that information about your city's water resources is accessible, accurate and updated in real-time.

While your city already has procedures in place aimed to ensure that drinking water is pure and safe for consumption, **drinking water is not being monitored on a 24/7 basis**; instead, water purveyors rely on sporadic manual sampling and time-consuming lab testing. This may result in a rapid spread of contamination between manual samplings without the authorities' knowledge, preventing them from being able to issue timely orders and advisories.

The IDWMS will assist your city in achieving its objectives to improve the effectiveness of the quality management system through the following:

1. Ensuring that quality of water in the distribution system meets or exceeds the regulatory requirements.
2. Improving the process by which water is being treated and delivered to the customer by means of providing the designated authorities with complete water quality situation awareness.
3. Assisting in providing high-quality response services and promoting consumer confidence through facilitation of the city's timely response and proactive prevention of waterborne emergencies.

The purpose of the IDWMS is not to replace the existing procedures already in place but rather to provide an additional layer of protection to support your city's efforts to keep drinking water safe. The IDWMS will feature multiple sensor array sites, placed strategically along the water distribution system and combine multiple information streams to provide event detection and identification as well as decision support in near real-time. The technology will be customized to meet your city's specific needs and monitor for contaminants that are of particular interest to you.



The IDWMS has already attracted national and international interest. AUG Signals is currently leading a demonstration project, sponsored by Sustainable Development Technology Canada (SDTC), in which the IDWMS is validated in EPCOR's Edmonton Waterworks System (Edmonton, AB) since January 2010.. A number of other cities have already expressed interest in this technology, including Calgary, Montreal, Quebec City, Shanghai and Beijing, to name a few.

We would like to propose the installation of our system in your city's water distribution system. We will then work together with you to determine the specific contaminants you would like to monitor for. Once water contaminants of interest are identified, AUG Signals suggests installing 10 monitoring stations that will detect and identify those water contaminants. Not only will this project allow you to proactively monitor the quality of the water in your distribution system, but will also make your city a leading centre for innovation in water monitoring and surveillance technologies.

I hope the attached will suffice in giving you enough information to consider partnering with AUG Signals on this project. I will be happy to provide you with a more detailed description of the proposed system and answer any questions you may have at your earliest convenience.

Sincerely,

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